

Remarks:

Previous restriction:

In the restriction requirement, which was replied to on September 21, 2006, the Applicant elected claims directed to Group II, but failed to elect a species for prosecution within group II as required by the restriction requirement. During a telephone interview with the Examiner on October 31, 2006, the Applicant made a provisional election of species B. Accordingly, the applicant has withdrawn claims 7 and 9-16.

Claim Objections:

The Examiner has objected to claim 6 because the term “ammonium” has been misspelled. The applicant has amended claim 6 accordingly to correct this misspelling.

Claim Rejections:

35 USC 112:

The Examiner has rejected claim 8 as being indefinite because of the use of the phrase, “substantially the same rate. The applicant has amended claim 8 to render the claim more definite.

35 USC 103(a):

The Examiner has rejected claims 6 as being obvious in view of applicant's admitted prior art in view of Mueller et al and in view of Kaufman et al. The Applicant strongly asserts that the invention recited in claim 6 is not rendered obvious in view of Mueller and Kaufman et al, because both of these reference address non-analogous art. Hence, it would not be obvious to one skilled in the art to apply the teachings of Mueller and/or Kaufman to the construction of a write coil in a magnetic write head as claimed in claim 6.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on appellant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed Cir. 1991).

Both the Mueler and Kaufman references are directed to methods for processing semiconductor devices. Claim 6, by contrast, teaches a method for manufacturing an electrically conductive write coil for a magnetic write head. The demands and challenges of constructing such a magnetic write head are fundamentally different from those of constructing a semiconductor device. For example, the structures of a write head have a much higher topography than that of a semiconductor device. In addition, the materials used in a write head are different from those used in a semiconductor device. For example, as recited in claim 6, the construction of the write head involves the use of materials such as Ta, a hard mask, and photoresist. These materials are different from the materials used in semiconductor processing such as Si, GaAs. One skilled in the art of write head manufacture would not be motivated to combine the teachings of the AAPA with those of Mueler and/or Kaufman, at least in part, because the materials being removed being removed by the CMP process in order to construct a magnetic write head are different than the materials being removed to construct a semiconductor device. Therefore, at least the first prong of the *prima facie* case of obviousness outlined above is not met.

The Examiner has also rejected claim 8 as being obvious in view of Mueler, Kaufman and in further view of IBM technical disclosure bulletin dated October 1994 (IBM). As mentioned above, the Applicant believes that claim 6 is allowable over the prior art. Therefore, claim 8, which adds further limitation to claim 6 is also allowable

over the prior art. In addition, Claim 8 is further allowable over the prior art for the following reasons.

Claim 1 recites a further step of adjusting a ratio of Ammonium Persulfate and Benzotriazole (BTA) so that said CMP process removes material from said photoresist, hard mask, Ta, and Cu at the same rate. None of the references teaches or suggests that the concentration of these elements of the CMP slurry can be adjusted to remove Cu and Ta at the same rate.

The IBM reference teaches the chemical-mechanical polishing of copper lines in a circuit boards using a slurry that includes ammonium persulfate and silicon dioxide. IBM does not mention the use of Benzotriazole in the slurry and further does not mention adjusting a ratio of Benzotriazole and ammonium persulfate to so that a CMP can remove Ta and Cu and photoresist at substantially the same rate. In fact, none of the references mentions the removal of Ta, photoresist or hard mask by chemical mechanical polishing at all.

Furthermore, as discussed above, all of the references are non-analogous art. For example, the IBM reference discusses the use of chemical mechanical polishing in a process to produce “patterns of circuit boards”. One skilled in the art of write head manufacture would not be lead to combine these references to achieve the invention claimed in claim 8, because the references, including the IBM reference, address fundamentally different needs than those presented by the manufacture of write heads. For example, the IBM reference discussed chemical mechanical polishing of Cu, but is

silent as to the polishing Ta, photoresist or hard mask, let alone polishing Cu, Ta, photoresist and hard mask by a process that removes these materials at the same rate.

Therefore, the Applicant sincerely believes that claims 6 and 8 are allowable as amended. The Applicant therefore requests a notice of allowance on this case. In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 971-2573. For payment of any additional fees due in connection with the filing of this paper, the Commissioner is authorized to charge such fees to Deposit Account No. 50-2587 (Order No. HSI920030250US1).

Respectfully submitted,

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